

**REMARKS**

**I. STATUS OF THE CLAIMS**

No claims have been amended herein. Accordingly, there is no issue of new matter or written description.

Claims 1-9, 14, 15, and 18-34 are pending and subject to examination upon entrance of this paper.

**II. REJECTIONS UNDER 35 U.S.C. § 103**

**A.** Claims 1-9, 11, 12, 14, 15, and 18-34 are rejected under 35 U.S.C. § 103(a) as allegedly “being unpatentable” over Macromolecular Rapid Communication, (18), 461-469, 1997, by Yoshikazu Takata, et al., (“Takata”) in view of US 5,362,486 to Nandagiri et al. (“Nandagiri”) and JP 2001158724 (“JP 724”); **or** Nandagiri and Takata in view of JP 724; **or** JP 724 and Takata in view of Nandagiri. *See* Office Action at 3-6.

In sum, the Office states that Takata teaches cyclic carbonates can polymerize with expanded volume, and that some of the cyclic carbonates taught by Takata are within the scope of the current claims. *See id.* at 3. The Office also contends that Nandagiri discloses that hair treating compositions comprising one or more oligomer that are polymerized in situ provide desired properties to hair, such as increasing the body volume of the hair, etc. *See id.* at 3-4. The Office also argues that JP 724 teaches a hair dye composition comprising cyclic carbonates that are not identical with, but are related to, the cyclic carbonates of Takata. *See id.* at 4-5. Thus, according to the Examiner, one of ordinary skill in the art would have expected the cyclic compounds of Takata to possess similar properties as taught by JP 724, such as increasing the affinity of hair dye to the hair and being safe on application to the hair. *See id.* at 4-5. The

Office thus concludes "it would have been obvious for one of ordinary skill in the art at the time of the instant invention was made to employ the cyclic carbonate compounds taught by Takata, in cosmetic or personal care compositions such as hair dye. . . because . . . Nandagiri suggests that monomeric compounds that are capable of polymerizing in situ impart body, volume and strength to hair without returning to the original shape of the hair. Office Action at 5. Applicants respectfully disagree and traverse the rejection.

Among all the cyclic carbonates disclosed by Takada, only the compound with the following structure falls within the current claim scope.



The Office, correctly recognizing that the above cyclic carbonate by Takata is similar to, but not identical with the cyclic carbonates disclosed by JP 724, concludes that the above cyclic carbonate should have similar properties as taught by JP 724, such as increasing the affinity of hair dye to the hair and being safe on application to the hair. The Office, however, is mistaken, because there is no reasonable expectation with respect to cyclic carbonates that similar structures will have similar properties.

It is well known in the art that chemical technology is highly unpredictable. According to MPEP 2144.09, even homology should not be automatically equated with prima facie obviousness. Here, the above cyclic carbonate taught by Takata is neither a homolog nor an isomer of the cyclic carbonates taught by JP 724. Rather, Takata's cyclic carbonate discussed above is distinguishable from the cyclic carbonates of JP

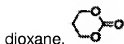
724 in at least two aspects. For example, the cyclic carbonates of JP 724 are 5-membered rings, whereas Takata's above cyclic carbonate is 6-membered ring; the cyclic carbonates of JP 724 are substituted by a carbon chain comprising at least one oxygen, but Takata's above cyclic carbonate is substituted by two methyl.

The recent decision of the Board of Patent Appeals and Interferences in *Ex parte Subramanyam* (BPAI, March 29, 2010) made it abundantly clear that, "structural similarity, alone, however, is insufficient to establish a prima facie case of obviousness, as there must be some reason that would have led the ordinary artisan to the compound required by the claims." Here, the Office, however, has not provided any evidence or any reason as to why the ordinary artisan would have modified the cyclic carbonates as taught by JP 724 to arrive at Takata's above cyclic carbonate.

Moreover, Takata provides information indicating that two positional isomers of cyclic carbonate can have different properties. For example, in Figure 2 of Takata,



shrinks after polymerization. In contrast, 2-oxo-1,3-



, a positional isomer of the former, expands upon polymerization. Thus, at least within the context of cyclic carbonates, similar structures, for example, position isomers, cannot be expected to lead to similar properties. Accordingly, contrary to the Office's positions, one of ordinary skill in the art would not have expected Takata's



which is structurally more remote from the cyclic carbonates of JP 724 than a position isomer or a homolog, to have properties similar to those of the

JP 724's cyclic carbonates, such as safe application to hair, or increasing the affinity of hair dye to keratin fibers.

In addition, as indicted in the previous response, Takata does not teach its cyclic carbonates for cosmetic use. Nandagiri, on the other hand, teaches that it is known to polymerize monomers, in-situ, while in contact with hair. *See* col. 2, lines 51-55. However, Nandagiri also indicates the results are **highly unpredictable and inconsistent**. *See* col. 2, lines 59-68. For example, the monomers can be unsuitable for cosmetic compositions because they are irritating or harmful to hairs and or skins. Further, the polymer hair treatment may lack durability, usually washing out after one or two shampoos. Nandagiri, as a whole, thus does not provide any guidance as to which monomers can be used for hair treatment. As such, the combined teachings of Takata, Nandagiri, and JP 724 would not have suggested a reasonable level of success. That lacking of predictability renders the current claims non-obvious over the combination of the references.

For the foregoing reasons, the Examiner has failed to establish a prima facie case of obviousness. Applicants respectfully request that the rejection be withdrawn.

**B.** claims 1-9, 11, 12, 14, 15, and 18-34 are rejected under 35 U.S.C. § 103(a) as allegedly "being unpatentable" over US 6,156,077 to Shibata et al. (Shibata) in view of Takata, Nandagiri, and JP 724. *Id.* at 6-7. Applicants respectfully disagree and traverse this rejection.

The Office cites Shibata for teaching the use of film-formers in a hair composition. Thus, Shibata does not rectify the deficiencies as discussed above.

Accordingly, this rejection is improper and should be withdrawn.

**Conclusion**

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and timely allowance of the pending claims.


If the Examiner believes a telephone conference could be useful in resolving any of the outstanding issues, she is respectfully invited to contact Applicants' undersigned counsel at (650) 849-6649.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By:  \_\_\_\_\_  
Wen Li, Ph.D.  
Reg. No. 62,185